

CLAIMS

1. Electric machine with a rotor rotatable about a rotation axis, the rotor comprising a winding to be cooled to a low temperature, in particular a superconducting winding, which is surrounded by a securing means with a tape binding, characterized in that the tape binding (13, 15) of the securing means (12) has, as viewed in the axial direction, an outside contour that widens from a smaller outside diameter (D_1 , D_1') to a greater outside diameter (D_2), and that the tape binding is surrounded by several sequentially arranged friction-locked securing rings (14i) with an inside diameter which is adapted to the corresponding outside diameter of the outside contour.
2. The machine according to claim 1, characterized in that the rotor (5) has a pole core for receiving the winding (10).
3. The machine according to claim 1 or 2, characterized in that the tape binding (13, 15) is a wound from a fiber-reinforced plastic band.
4. The machine according to claim 3, characterized in that a hardenable plastic material is provided in addition to the tape binding (13, 15).
5. The machine according to one of the preceding claims, characterized in that the securing rings (14i) are made of a fiber-reinforced plastic material or a metal.

6. The machine according to one of the preceding claims, characterized in that the outside contour of the tape binding (15) has the shape of a double cone with an outside diameter that is tapered towards the corresponding sides of the rotor.
7. The machine according to one of the preceding claims, characterized in that the winding (10) that is cooled to a low temperature comprises a High- T_c superconductor material.
8. The machine according to claim 7, characterized in that the winding (10) is to be kept at a temperature below 77 K.